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Report of the

WORKSHOP AND EXCHANGE OF VIEWS ON FISCAL REFORMS FOR FISHERIES – TO PROMOTE GROWTH, POVERTY ERADICATION AND SUSTAINABLE MANAGEMENT

Rome, 13–15 October 2003

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PREPARATION OF THIS DOCUMENT

Resource rent is of overriding importance in fisheries exploitation. Depending on the institutional arrangements in a fishery, it may be the driving force leading to overexploitation in its two main forms (overcapacity and overfishing) or it may be the basis for the generation of sustainable wealth and revenue. Fiscal arrangements, and hence their reform, are important in at least two ways. First, fishery management systems are gradually beginning to emerge that allow resource rent to be generated on a sustainable basis. Fiscal conditions will determine the sharing of this wealth between different stakeholders. Second, fiscal arrangements may themselves constitute an important management measure, usually supporting other management instruments and helping to control exploitation levels.

In this context, the Support unit for International Fisheries and Aquatic Research (SIFAR) conceived and organized an international workshop on fiscal reform for fisheries, which was hosted by FAO from 13 to 15 October 2003 in Rome, Italy. Financial support for the workshop was provided by DFID (the UK Department for International Development).

A key goal of the workshop was to facilitate discussion between participants, drawing on their varied backgrounds, on the central theme of how best to use fiscal methods to achieve both fisheries policy objectives, and broader economic, social and environmental objectives.

This report presents a synthesis of the workshop. It draws on presentations made by participants of the situation in each country represented at the meeting. It also uses the summaries prepared by chairpersons and rapporteurs of discussions held in thematic subgroups which concerned:

- How to define the mix of fiscal instruments and set the right levels?
- What to do with the resource rent?
- How to manage fiscal reform and negotiate access agreements?

And it uses the summaries prepared by chairpersons and rapporteurs of discussions held in three more regionally-based groupings, the aims of which were to:

- Identify thematic priorities on regional basis.
- Investigate cooperation possibilities.
- Suggest mechanisms to improve fiscal arrangements.
- Make recommendations for follow-up.

Finally, the document draws on a set of conclusions and recommendations developed and unanimously agreed by the participants in the closing plenary session of the workshop. The workshop participants recognized the importance of fiscal reform and recommended strongly that ways be found to continue dialogue at international, regional and national levels.

This document was prepared and edited by Stephen Cunningham and Tim Bostock, respectively Consultant from the Institut du développement durable et des ressources aquatiques (IDDRA) to SIFAR/FAO and Executive Secretary of SIFAR. The papers prepared by participants will be presented in a supplement to this report.

Distribution:
Workshop participants
Directors of Fisheries
FAO Fisheries Department
FAO Members

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ABSTRACT

The Support unit for International Fisheries and Aquatic Research (SIFAR) conceived and organized an international workshop on fiscal reform for fisheries, which was hosted by FAO from 13 to 15 October 2003 in Rome, Italy. A key goal of the workshop was to discuss the best use of fiscal methods to achieve both fisheries policy objectives, and broader economic, social and environmental objectives.

This report presents a synthesis of the workshop. Discussions were organized first on a thematic basis (mix of fiscal instruments, use of resource rent and managing fiscal reform processes) and then on a regional basis (thematic priorities, coordination, and recommendations for improvement and follow-up). The report summarizes these discussions as well as the presentations made by participants of the situation in each country represented at the meeting. It ends with the conclusions and recommendations adopted by the participants.

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1. INTRODUCTION

This international workshop on fiscal reform for fisheries was conceived and organized by the Support unit for International Fisheries and Aquatic Research (SIFAR) and subsequently hosted by FAO from 13 to15 October 2003 in Rome, Italy. Financial support for the workshop was provided by DFID (the UK Department for International Development).

The report of the workshop is presented in this document[1]. The workshop agenda adopted by the participants is presented at Annex 1. The workshop brought together 29 participants from ten countries and six organisations. The list of participants is presented at Annex 2.

Papers prepared for the workshop by participants are to be presented as a supplement to this report. Two background papers prepared for the workshop are included in Annex 3.

2. REPORT AND SYNTHESIS OF PRESENTATIONS

2.1 Opening of workshop

Mr Grimur Valdimarsson, Director, Fishery Industries Division, FAO welcomed participants to the workshop. He set the meeting in context, pointing out that where once FAO had helped fishers to catch more fish, now the focus was on helping countries to reduce fishing effort. Overexploitation is now the pervasive problem and landings of the ten most valuable species have declined by 45 percent due to overfishing. Reducing effort is proving a difficult challenge. The most promising approach appears to be some kind of system of limited rights coupled with charging for the rights. It is in this latter aspect that this workshop on fiscal reforms in fishing may be of particular interest.

Mr Tim Bostock, SIFAR Coordinator, stressed that an important output expected from the workshop was the discussion between participants on this important but relatively novel topic.

The draft agenda was adopted by the meeting. Ms Nancy Gitonga, Director of Fisheries, Kenya was unanimously elected chairperson for the first day of the meeting (the chair passing to Mr Yugraj Yadava, Director, Bay of Bengal Programme for days 2 and 3). She began by asking participants to briefly present themselves, following which she asked the workshop facilitator Mr Steve Cunningham, Institut du développement durable et des ressources aquatiques (IDDRA) to outline the workshop objectives.

Mr Cunningham began by making a short presentation on the importance of resource rent, both as the economic driving force leading to overexploitation in unmanaged or poorly managed fisheries and as the potential source of economic benefits in well-managed fisheries. He also stressed the key role played by access arrangements, with free and open access to fish resources being widely recognised as the main problem.

He then outlined the objectives of the workshop. The workshop brought together participants with a range of experiences and the primary goal was to use these different experiences as the backdrop to an exchange of ideas on:

- How to generate maximum value from fishery resources?
- How to ensure efficient revenue collection?

[1] The views expressed in the report or in the papers prepared for the workshop are those of the respective authors or participants and should not be considered as reflecting the views of FAO or its Members.

- How best to use fiscal methods to achieve fisheries policy objectives? And also to achieve broader economic, social and environmental objectives.

In the context of fisheries management, the fiscal system might be expected to have a number of features, including to:

- Promote sustainable fisheries management, development and exploitation.
- Promote other fisheries objectives – e.g. increased private sector participation as stewards of the resource.
- Contribute to broader goals: e.g. poverty reduction, good governance (accountable, transparent, reduced corruption), and environmental objectives concerning natural resource utilization and conservation.

In order to facilitate the desired exchange of experiences and ideas, the workshop sessions were organized into a series of phases. Presentations were made by participants of the situation in each country represented at the meeting. Discussions were then organized first through thematic subgroups discussing the following three themes:

1. How to define the mix of fiscal instruments and set the right levels?
2. What to do with the resource rent?
3. How to manage fiscal reform and negotiate access agreements?

Each thematic subgroup then presented a short report back to the plenary. Discussions were then continued with three more regionally-based groupings, the aims of which were to:

- identify thematic priorities on regional basis;
- investigate cooperation possibilities;
- suggest mechanisms to improve fiscal arrangements;
- make recommendations for follow-up.

The three groupings were:

- Mauritania, Morocco, Guinea, Senegal
- Kenya, Mozambique, Uganda
- Bay of Bengal/India, Forum Fisheries Agency/Pacific, Papua New Guinea

Each subregional grouping reported back to plenary, on the basis of which a series of recommendations were drawn up and adopted by the meeting.

2.2 Presentations by participants

The papers on which the presentations were based are to be included in a supplement to this report. The intention in this section is not to present a summary of each paper but simply to highlight the main issues that were raised, both in the papers and in the discussion that ensued.

Mr Peter Manning[2]

Mr Manning gave a presentation on the fiscal implications of resource rent, principally associated with Namibia's hake fishery.

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[2] In the absence of a Namibian Government Representative, Peter Manning (Coordinator, ACP Fish II feasibility study 2002-2003) was invited to make the presentation on the basis of a study he undertook in 2002 of the hake fishery of Namibia.

He began by stressing that the central issue in fiscal reform is to understand the value of the fish stocks. The key element is to calculate resource rents but for many reasons this is not an easy task.

He pointed out that Namibia is somewhat unusual in having no artisanal sector, as historically Namibia did not have a coastal population due to its hyper-arid desert coastal region. The management system is based around Total Allowable Catches (TACs) with quotas being allocated to rights holders. Such quotas are subject to quota levies and other fees.

In principle fees are lower for domestic fishers than for foreigners but in practice this is a difficult distinction to enforce since companies are often able to use a combination of accounting and company law to ensure that they end up in the lower cost bracket.

Namibia nevertheless collects up sufficient of the resource rent being generated in the fisheries to cover the full costs of management, including monitoring, control and surveillance (MCS) and research, and to make a net contribution to the public purse.

In the hake fishery, resource rent still accruing to the industry is estimated to be around US$ 53.8 million; that is, net of rent already collected by the Government and potential rent dissipated in other ways.

One policy being followed, that uses rent that might otherwise accrue in the fishery, is to try to create employment on land by charging lower quota fees to wetfish vessels than to freezer trawlers. The difficulty is that the latter vessels generally produce more highly valued frozen-at-sea products so that rents are sacrificed for the employment. This raises the question of how best to utilise such rents: is it more appropriate to create fishing-related employment, or should a wider view be taken of the issue, perhaps using fishing rents to create employment elsewhere in the economy?

Mr Cherif Ould Toueileb[3], Mauritania

Mauritania has an exclusive economic zone (EEZ) of some 234 000 km^2. It also has the largest Marine Protected Area in Africa, representing 60 percent of the coastal zone. Fishing is a very important economic activity. The catch potential is estimated to be between 1.5 and 1.7 million tonnes. Current catch is around 600 000 tonnes, 90 percent of which comes from the industrial sector. The fishing sector represents about 10 percent of the gross domestic product (GDP), and generates about 40 percent of hard currency receipts (almost all the catch is exported).

Mr Toueileb showed that the extraction of resource rent from fishery resources has long been important for the Mauritanian government. Since the 1980s, some 20 percent to 25 percent of central government revenue has been funded through fish resource rent. He presented a table showing that the structure of this rent has changed through time. In the 1980s and early 1990s, Mauritania had a system of export taxes operated through a state monopsony. This system was radically changed around 1993, being replaced by a licensing system. The new system not proven anything like as efficient from a rent collection viewpoint as the old one with the result that the contribution made by national fishers has declined substantially. Rent is now

[3] Director of Studies and Management of Fishery Resources, Fisheries Ministry, Mauritania.

obtained principally through fishing agreements, in particular through the agreement with the European Union (EU).

Mr Toueileb emphasized that whilst Mauritania wished to continue to apply the United Nations Conference on the Law of the Sea (UNCLOS) principle of sharing catch opportunities between local and foreign fishers, the Government now sought to promote joint ventures as a means of keeping as much of the rent as possible within the country.

The biggest problem faced in fishery management was that of institutional weakness, with a need in particular for training to develop human capacity. There is also a need to control fishing effort, a need that Mauritania has begun to address through the development and implementation of a series of fishery management plans. Fiscal arrangements are an important part of these plans.

Mr Keizire Boaz Blackie and Mr Godfrey Bahiigwa[4], Uganda

Mssrs Blackie and Bahigwa began by pointing out the difficulty of obtaining unequivocal data concerning the fisheries sector which previously was thought to contribute some 2.4 percent to the GDP but which recent estimates put at 12 percent. The sector employs about one million people (4 percent of population). Fish exports have grown from less than 1 percent of total exports in 1990 (US$ 1.4 million) to 17 percent in 2002 (US$ 80.9 million), second only to coffee. Fish provide a relatively cheap source of animal protein especially for the poor, and the sector is important both for economic growth and poverty reduction.

Given the importance of the sector, the Government is gradually developing its fishery policy and a national strategy was published in 2002. Fisheries also figure significantly in the national poverty eradication action plan.

The issue of free and open access has been recognized and a co-management approach is being promoted to deal with it. Major institutional innovations are underway in fisheries with the development at the micro-level of a network of about 500-700 Beach Management Units (BMUs) being introduced at the community level. At the meso-level, BMUs can cooperate and form large lake-wide associations, e.g. on Lakes George and Kyoga. At the macro level, the Department of Fisheries Resources is being transformed into a National Fisheries Authority.

Both Central and Local Government seek to extract some rent from the fishery sector, the former mainly through export taxes on the processing sector, the latter through fees on fishing vessel licences. At the national level, a levy of 3 percent on fish exports is proposed to support national fisheries management functions.

At the local level, the need to plough back rents from fisheries is recognized and BMU legislation will empower communities in revenue collection and utilization. BMUs will be eligible to bid for landing site tenders for revenue collection.

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[4] Respectively, Senior Fisheries Economist, Department of Fisheries Resources, Ministry of Agriculture, Animal Industry and Fisheries and Senior Research Fellow, Economic Policy Research Centre, Makerere University, Uganda.

Mrs Nancy Gitonga[5], Kenya

The current vision for the Kenyan fishery sector is to increase fish production on sustainable yield basis in order to improve incomes of fishers and fish farmers, alleviate poverty, reduce unemployment and enhance food security at both the household and national levels. Policy development and implementation is the responsibility of the new Ministry of Livestock and Fisheries Development.

Fisheries are important in Kenya both from a social viewpoint - fishing is a way of life for fishing communities - and from an economic viewpoint - fisheries contribute to the economy through employment creation, generation of income and foreign exchange earning. Fisheries resources also provide for recreation through sport fishing and angling activities, which promote fisheries tourism in Kenya.

Freshwater fisheries are of great importance in Kenyan fisheries, with Lake Victoria currently contributing around 90 percent of Kenyan landings. The dominant species is Nile Perch but landings are falling. The Government is seeking to manage more effectively the Lake fishery, whilst developing the marine sector.

Kenya has a marine EEZ of some 230 000 km^2. Most of the marine catch is taken in shallow inshore waters, mainly by artisanal fishermen using simple boats and gears.

The offshore waters of the Kenyan zone yield catches of large tunas, billfishes and pelagic sharks to foreign fishers without local participation. Kenya would be willing to negotiate with Distant Water Fishing Nations (DWFNs) for fishing rights in her EEZ in accordance with the UNCLOS provisions, but before such negotiations, the country would wish to have sufficient knowledge of her stocks, and seek advice on the form and contents of a potential access agreement that would tie DWFNs into a formal relationship with the Kenyan Government.

The Government aims to improve fishery infrastructure through developments such as establishing ice making plants, modernizing landing sites, providing all weather roads to landing sites, creating fish quality control laboratories, and providing services such as electricity and telecommunication at landing sites.

The marketing of fishery products is vulnerable to unfair application of non-tariff trade barriers such as Sanitary and Phytosanitary (SPS) measures by importing countries. There is a need therefore to build capacity to effectively participate in SPS measures and implement international fish quality and safety standards to sustain the market share.

The recently-finalized Economic Recovery Strategy is geared towards the realization of wealth and employment creation covering the period 2003-2007. An investment code to consolidate investment incentives, protection and institutional framework in a single legislation is being put in place. The Strategy includes poverty reduction initiatives in the implementation action plan, which emphasize sustainable development of the huge potential of the fisheries sub sector in the country.

Policy reform is also being promoted in fisheries subsector with the development of a comprehensive fisheries master plan. Kenya seeks to enter into agreements to promote closer regional cooperation in the management and regulation of the transboundary fishery

[5] Director of Fisheries, Kenya.

resources. The Government also wishes to encourage the growth of micro-finance institutions to provide credit to the subsector, and intends to introduce fiscal reforms to deal with cost of exploitation of fisheries resources, processing, preservation and export of products. It also intends to ensure the adequacy of financial resources to expedite fisheries growth through research and transfer of technology.

Mr Hassan El Filali and Mr Hachim El Ayoubi[6], Morocco

The fishing industry is an important sector in the Moroccan economy, representing some 2.5 percent of GDP and accounting for a billion dollars' worth of exports (around 15 percent of total exports).

Fish landings are around 1 million tonnes per annum, dominated in weight by small pelagics, especially sardine which represents some 70 percent of the total. In value terms the cephalopods, particularly octopus, are the most important species.

The catching sector comprises three principal segments: industrial, coastal and artisanal. Together these three segments generate some 113 000 jobs. Onshore there are some 360 processing units, producing frozen, canned and preserved fish, as well as fish meal and oil, and employing around 38 000 people. It is estimated that another 250 000 jobs depend indirectly on fishing.

Having gone through what might be called a classical fishery development model (essentially increasing production with the aim of increasing incomes, food security and exports), Morocco has recently adopted a new vision of fisheries development. This new vision centres on sustainable resource management and identifying the appropriate role for the sector in national development. As a consequence, the legal and regulatory framework is being renewed with an objective of managing fisheries taking into account the concept of rent.

The fiscal framework involves taxes, fees or levies related to investment, resource exploitation and fishing activity. In each case a wide range of fiscal instruments is used.

There are a number of difficulties with the current fiscal situation. First, short-term budgetary considerations tend to dominate rather than a fishery-management-based vision. Second, there are a great many taxes and organizations involved. Third, some levies and fees are very high compared to the level of service offered. Finally, questions are raised as to the equity of the system.

Mr Ndiaga Gueye[7], Senegal

The fishing sector is an important part of the Senegalese economy representing 2.5 percent of GDP, 37 percent of exports by value, and employing some 17 percent of the working population. Fish also play an important role in food security, providing some 75 percent of animal protein.

Total production has increased substantially from 50 000 tonnes in 1965 to over 350 000 tonnes in 2002, but many resources, especially the most valuable ones, are now fully- to overexploited.

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[6] Ministry of Fisheries, Morocco.
[7] Director of Marine Fisheries, Senegal.

A number of key problems can be identified concerning the sector including the need for sustainable management of fish resources, improved sector governance, maximization of resource value, and improving communication between actors in the sector.

The current policy agenda can be traced back to a national discussion forum in November 2000, which enabled priorities to be identified. The main priority is to establish a framework for access regulation, following which development actions can be strengthened. In this context, both the institutional, and legal and regulatory frameworks are being revised.

A sector strategy has been developed around six key objectives. These are to ensure the sustainability and economic viability of fishing, to meet local demand for fish, to modernize the artisanal segment, to increase value added from fisheries products, to develop an effective funding system for both public and private activities, and to strengthen bilateral, regional and international cooperation.

A variety of activities are being undertaken to meet these objectives. At the fishery management level, the priority is given to access regulation through the development of fishery management plans. An important part of this concerns the development of a more appropriate institutional and economic environment, including the establishment of fiscal arrangements in line with the new goals of sectoral policy.

Ms Josie Tamate[8], Forum Fisheries Agency

Ms Tamate presented the situation in the Pacific region covered by the Forum Fisheries Agency (FFA). The FFA was established in 1979, following the adoption of the Law of the Sea Convention. It has 17 members – 16 independent states and one territory – and consists of a Committee and a Secretariat. It is funded by contributions from the members. All decisions are made by consensus or on a two-thirds majority if consensus cannot be reached. There are no provisions for disciplinary actions if a member does not comply with regionally agreed rules and procedures.

The Western and Central Pacific (WCP) Tuna Fishery is one of the largest and most productive in the world. Landed catches are around one million tonnes annually, with a monetary value of nearly US$ 2 billion. Major foreign fishing fleets include USA, Japan, Korea, Taiwan (Province of China) and the Philippines. An increasing local (FFA members) fleet has been observed in the last few years.

Productive waters in the WCP region are found within the 10°N–10°S band; more than 50 percent of FFA members lie in this band. FFA members located within this productive zone have succeeded in demanding higher fees from distant water fishing nations (DWFNs). These countries have also formed a subgroup within the FFA context called the Parties to the Nauru Agreement (PNA group).

These tuna resources are of great importance to Pacific Island Countries/FFA members, representing around a third of all exports by Pacific Island countries. The fisheries make a significant contribution towards economic development, providing employment for an estimated 20–40 000 people and generating access fee revenue to the FFA members of some US$ 60 million per annum.

[8] Project Economist, FFA.

Access fees are typically paid as a lump-sum at the beginning of the licensing period. Such fees are dependent on the level of catch, the tuna price and the rate of return. Purse seine access fees range from US$ 10 000 to over US$ 100 000 per year. Additional fees are charged if and when vessels call into an FFA member port. Fees for longline vessels typically range from US$ 5 000 to over US$ 20 000. Vessels based in FFA members pay lower licensing fees but are liable for export taxes, and the like. A new method of charging access/licensing fees is being considered which would involve a minimum lump-sum payment plus an additional payment at the end of the licensing period. The current approach by FFA members is not directly linked to resource rent but this may change in the near future with various projects/studies underway to measure the rent and options to increase revenue from fisheries. There is a need to promote transparency mechanisms for licensing fishing vessels in the region.

A number of mechanisms have been applied to implement and monitor access agreements. These include the Palau Arrangement for the Management of the WCP Purse Seine Fishery, Harmonized Minimum Terms and Conditions (MTCs), FFA Vessel Monitoring System (FFA VMS) and the Niue Treaty on Co-operation in Fisheries Surveillance.

The WCP Tuna Convention was adopted in September 2000 after six years of negotiation between major DWFNs and coastal states in the WCP region. This Convention introduces a new element into the tuna fishery with the prospects of enhanced programs for tuna conservation. It appears to offer new opportunities for FFA members to generate greater benefits from their resources. The biggest challenge for FFA members will be to maintain their regional cooperation and unity.

Mr Jonathan Manieva[9], Papua New Guinea

It is estimated that Papua New Guinea (PNG) marine resources could produce annual sustainable landings of some 500 000 tonnes worth around US$ 600 million. Current recorded market value of PNG catch is only US$ 100 million to US$ 200 million, partly due to the difficulty of obtaining the true value of artisanal fisheries and partly due to fish price variations from year to year. There is significant potential to increase the economic value and returns to PNG of these fisheries through better management and development programs.

Fisheries policy is determined by the Minister of Fisheries and implemented by the National Fisheries Authority (NFA). The main objective has been to ensure that PNG fisheries and other living aquatic resources are exploited within sustainable limits, with the 2000 Fisheries Act placing an obligation on Government to ensure the conservation and optimum utilization of marine resources within the EEZ.

The approach taken to meet policy objectives has been to develop, implement and monitor fishery management plans for each specific fishery. Such plans establish rules for access to fish resources. A key element has been the move towards annual licences.

The NFA is a financially-autonomous semi-government corporate body, governed by a 10-person Board which includes representatives from government, the fishing industry, resource owners and non-government organizations. It derives the bulk of its operational revenue from access fees related to Distant Water Fishing Nation activities. Other sources

[9] Industry Liaison Co-ordinator, National Fisheries Authority, Papua New Guinea.

include mandatory licence fees, assistance from donor agencies and penalties arising from successful prosecutions under the Fisheries Management Act 1998.

The revenue obtained is used to fund NFA operational costs with any surplus being declared as a dividend and paid to the government. This autonomy has ensured that the NFA has the financial resources to carry out its functions, unlike under the former structure where operational budget and financial plans were subject to Ministry of Finance approval during the annual national government budget allocation process.

Since its establishment in 2000, it is felt that the NFA has achieved its objectives in terms of revenue generation and the implementation of established management policies and plans.

By far the most important commercial fishery in terms of both catch and economic value is the tuna fishery. Catch on average is usually 100 000 to 150 000 tonnes a year but it is estimated that the resource can sustain much higher annual catches of 250 000 to 300 000 tonnes with a potential market value of US$ 250 million depending on the commodity price. PNG acknowledges the need for a regional approach to managing tuna and is party to a number of bilateral and regional multilateral fisheries arrangements.

In the past access to tuna resources for foreign vessels has mainly been on the basis of the payment of licence fees. However, some access fishing licences have been granted on a concessionary basis in conjunction with onshore investments and it is anticipated that this policy will continue to develop in the future. An increasing portion of the catch is now being taken by domestic and locally-based foreign vessels, and much of this domestic catch being processed onshore.

Current access is valued at over US$ 10 million per year, including fees, levies, expenditure during port calls etc and is increasingly linked by policy decision to a commitment to onshore investment, preferably in the form of value-added processing of the catch for export.

Mr Yugraj Yadava[10], Bay of Bengal Programme/India

Mr Yadava presented the Bay of Bengal situation with particular emphasis on India. The fisheries sector is of great socio-economic importance in India where it is recognized as a powerful income and employment stimulator. Over 6 million fishers and fish farmers depend on fish for their livelihoods. The main objectives of the current 5 year plan (ending 2007) are to optimize production and productivity, increase exports, generate employment and enhance the socio-economic well-being and status of fisher communities.

India has a very large EEZ of over 2 million km^2, with an estimated harvest potential approaching 4 million tonnes. The domestic marine fleet is overwhelmingly artisanal with some 226 000 traditional vessels, of which around 45 000 are motorized. There are also 53 000 mechanized vessels and 170 large fishing vessels (over 21m in length).

Total fish production is currently around 6 million tonnes, split roughly 50-50 between marine and inland fisheries, although the latter is growing much faster (6 percent per annum) than the former (2 percent). Access to marine fisheries remain free and open with the result that increases in demand (and hence prices) have led to increases in numbers of fishers and in the

[10] Director, Bay of Bengal Programme, Chennai, India.

efficiency of their activities. The number of active fishers, which was around 200 000 at the beginning of the 1960s, exceeded 1 million in 1997.

Fish exports exceed US$ 1 billion per annum. Their development has been accompanied and results from the development of onshore facilities, especially in freezing and canning.

Although there is general awareness of the need to manage fisheries, the challenge is significant. General economic growth has tended to be lower in the coastal belt than elsewhere in India. The fishery sector is faced internally with overcapacity, under-employment and low per capita earnings, and externally by the lack of alternative occupations, seasonal mobility but low labour mobility to other sectors, low levels of literacy and relatively high levels of debt.

The challenge is to develop, in this context, a long term policy allowing for the balanced and sustainable exploitation of the marine fishery sector.

Mr Herminio Lima Tembe[11], Mozambique

The total catch of Mozambique is estimated at 112 000 tonnes, of which 90 000 tonnes comes from artisanal fisheries. The catch comprises shallow water shrimp (10 000 tonnes); deep-sea prawns (1 500 tonnes); crabs (5 700 tonnes); and fin fish (94 800 tonnes). The value of fish production is some US$ 132 million.

Fish exports are around 20 000 tonnes, valued at US$ 96.5 million. The main export markets are EU 62 percent, South Africa 13 percent, Asia 12 percent, and Zimbabwe with 8 percent.

Earnings from license fees and levies are some US$ 3.8 million.

The Fisheries Master Plan, adopted in 1994, established an estimated budget of US$ 5.1 million for the recurrent costs of the fisheries administration. This was intended to correspond to 2.5 percent of the value of fish production, which was forecast to be US$ 182.2 million by year 2000 and US$ 209.3 million by 2005. In the last three years the sector public budget has ranged from US$ 1.5 to US$ 2.7 million, corresponding to 1.15 percent and 2.5 percent of the value of fish production in 2001 and 2003 respectively. International financial assistance has provided additional investment funds for fisheries development and institutional support. This assistance has grown from US$ 6.8 million to US$ 13.5 million over the same period.

Rents available to Government as a result of fishing activities are clearly ear-marked, with 40 percent going to the Ministry of Finance, 50 percent to a Fishery Investment Fund, which provides credit to fishers and allows for capacity-building and 10 percent to the Ministry of Fisheries.

Prior to 1990, Mozambique had fisheries agreement with the Soviet Union (ex- USSR), and the European Community (EC). With the approval of the Fisheries Law in 1990, the policy and institutional context where no longer compatible with these fisheries agreements. Other than tuna and other highly migratory fish species that can be fished within the Mozambique EEZ, the fish stocks in the Mozambican territorial waters were reserved to national fleets.

[11] Director for Economics, Ministry of Fisheries, Mozambique.

A new Fisheries Agreement with the EU in line with the prevailing policy framework regarding access to fishing rights and with the national legislation is to be implemented from January 2004. This agreement is felt to be advantageous because it will provide additional earnings to meet sector financial needs, including funds for strengthening fisheries management and institutional capacity building. It should also foster monitoring and control of tuna fleets, whilst avoiding conflict with national fleets, in terms of the target species and fishing zones. It will increase economic utilization of under-exploited stocks and may contribute to improved post-harvest arrangements based on on-shore processing.

Mr Abdourahim Bah[12], Guinea

Fishing is one of the most important economic sectors in Guinea. Annual production is estimated at some 100 000 tonnes, providing 75 percent of animal protein. The sector is estimate to provide employment directly for around 9 000 people and indirectly for a further 200 000. Licence sales generate 20 to 25 billion Guinean francs of revenue per annum.

The goal of fisheries policy is to maximise the sustainable economic and social benefits that the country can obtain from its fish resources. Specific objectives relate to food security, the fight against poverty, the integration of the sector into the national economy, job creation, a substantial increase in Government receipts, and maintaining the balance between the resource and its environment.

In order to achieve these objectives, the Government has put in place a sectoral policy designed to control exploitation levels in order to ensure the sustainability of catch and revenue. Key activities include resource assessment, MCS, infrastructure development (particularly with a view to quality) and developing the capacity of the Ministry of Fisheries and Aquaculture.

Fishery management measures seek to conserve both fish resources and their habitats, to reduce conflict between artisanal and industrial fishers, to reduce discards and improve post-harvest handling. From a socio-economic perspective, measures are being taken to develop national fishing capacity, increase onshore value-added, create jobs, increase Government revenues and reduce poverty by improving living conditions for the population.

Access to the resource is controlled by licence. Trawling is forbidden within 10 miles of the coast. Pair trawling, purse seining and beach seining are also forbidden. Vessel capacity has been restricted to 1 000 GRT for demersal vessels and 2 600 GRT for pelagics. The Government requires fishing companies to land in Guinea. MCS has been strengthened in the coastal zone. However a number of structural factors currently limit the effectiveness of these measures, including relative weakness of MCS and research.

From a fiscal viewpoint, the most noteworthy development was the attempt to develop a national fleet by offering incentives, in terms of reduced licence fees, for chartered vessels to re-flag to the Guinean flag. Regrettably the programme failed with negative consequences for all socio-economic elements in the system (fees going to the Treasury, jobs, industrialisation). Around 2/3 of the normal level of fees were lost under the programme, and resource exploitation worsened due to the derogations granted to these vessels in terms of authorized fishing zones. For the future, the Government remains convinced of the need to create national fishing capacity in order to be able to create national processing capacity and develop

[12] Director of Marine Fisheries.

value-added fish products prior to export. A new approach is therefore being tried based on the encouragement of temporary joint ventures, which benefit from various provisions in the investment Code. It is anticipated that this approach will eventually result in increased profitability, improved MCS and resource conservation, greater socio-economic impacts and a more rational fiscal system, which does not depend solely on licence fees.

Discussion of presentations

A lively discussion session followed each presentation. This section outlines the main issues that were raised during the various question and answer sessions. Some of these issues were then discussed further in the thematic and/or regional discussion groups.

There was much interest in the issue of whether fish resource rents should be used to encourage employment within the fishery sector itself. A number of different views were expressed. On the whole, whilst recognising the potential political attractiveness of increased fishery employment, participants felt that a wider view needed to be taken of the question in order to ensure that the best decisions were taken from an economy wide viewpoint. It was not sufficient to focus on sector employment.

Related to the theme of employment generation was the issue of how to use the potential wealth of fish resources for poverty reduction. The big problem in fishing is that wealth and revenue tend to sow the seeds of their own destruction through overexploitation. The challenge is how to generate wealth and revenue on a sustainable basis and ensure that they are distributed equitably. There is no unique solution to this challenge but the discussions brought out the need in this context to balance macroeconomic and sectoral objectives, and to determine how the fishery sector can best contribute to the achievement of macroeconomic goals, such as poverty reduction and employment.

A key requirement is the need to control capacity. Most, although not all, fisheries discussed by participants show signs of overexploitation and the issue of how to control capacity was central. The need to relate solutions to the characteristics of the fishery and to design feasible institutional arrangements was stressed.

The importance of use rights was widely recognized. A difficult question concerned how best to determine use right fees. Although participants came to no particular answer, it did become apparent that revenues currently being extracted by Governments are generally well below potential rents. The remainder may be capitalized into the price of use rights, although often this appears not to be the case so that the proportion of rent that is not extracted continues to encourage overcapacity.

The issue of transferability of use rights was also discussed. The conclusion was reached that although in theory there is a choice to make such rights transferable or not, in practice in many situations transferability tends to become the *de facto* situation, regardless of the *de jure* one.

The question of sharing resources between local and foreign fishers was also discussed. Whilst some participants felt that local fishers should be favoured, others argued that the main priority for fishery management was to control the overall level of fishing effort. The breakdown between local and foreign elements was then a politico-economic question,

turning essentially on the Government's economic objectives and the relationship of the fishery to them.

It was concluded that where access agreements existed they should be managed as part of the overall fishery management system. In terms of negotiating access agreements, the advantages of regional cooperation were stressed, as was the need to maintain cohesion between regional partners. If the decision were taken to end an agreement, careful consideration should be given to the arrangements that would exist afterwards.

The importance of appropriate MCS arrangements was emphasized. In many cases, countries have used a licensing approach without knowing what is being caught. The importance of developing fishery information systems was recognized in order to match fishing effort to the resources available. Observer programmes are being developed widely.

2.3 Thematic group discussions

Participants were organized into 3 thematic groups. In each group, participants found the discussion of great interest. A general complaint was that the time available was insufficient for the groups to deal comprehensively with all of the topics on the agenda for each group and that they would have liked to discuss.

Group 1

The first group focused on the issue of how to define the correct mix of fiscal instruments and how to set the right level. The group concluded that, although each fishery must be regarded individually, the right mix and appropriate level of fiscal instruments would have to be in accordance with a set of key issues, notably:

- Politics: Fisheries objectives.
- Analyses: Ecosystem and fleet properties including management institutions.
- Assessment: Current state of ecosystem and harvest/management sector.

The issue of fisheries objectives was debated at length by the group in response to the question of how conflicts between objectives might be avoided to ensure policy coherence. The group came up with a list of possible (and common) objectives, including:

- Food production/food supply.
- Positive resource rent (super-normal profit).
- Sustainable employment.
- Fisheries management/MCS cost recovery (relates to 2).
- Implementing Code of conduct.
- Poverty reduction.
- Recreational fishery.
- Sustain cultural systems.
- Environmental considerations.
- And so on ….

The potential for conflict between such goals was recognized. The group concluded that objectives must be consistent with knowledge and political priorities and that increasing awareness of the importance of clarifying political objectives is a major task. In order to

achieve this latter it was felt that there was a need to educate policy makers and administrators. It was also felt that quantification of objectives would help.

It was recognized that different countries give different objectives different priorities. As a result, setting the proper objectives is essentially a political matter and can not be settled by technical measures. But technical measures can, and should, be used to relate values or other quantities to any relevant objective and to clarify the trade-offs that are inevitably made when one objective is chosen over another. This will contribute to making the political process more transparent and knowledge based.

In discussing the question of "What is the right mix of instruments that meet the basic criteria of economic efficiency, administrative feasibility and balancing economic and environmental objectives?", the group noted that available management means may be presented in different ways. The overall goal is to ensure that the level of fishing effort and capacity is commensurate with the catch opportunities available. In principle, this balance can be achieved either by reducing the efficiency of fishing or by reducing the fishing activity as such (or the two combined). Traditional technical regulation could be placed in the first category. The other category is presented in the table below.

	Input control	Output control
Direct	**A:** • Limited entry • Closed season • (Closed area)	**C:** • Traditional quota management • ITQ systems • Other quota systems
Indirect	**B:** • Access fees • Other taxes on fishing effort	**D:** • Production fees • Export taxation • Other taxation on catch

The table clarifies that fiscal arrangements may have an important role to play in management. Different instruments ("management means") may have different properties in terms of inducing change: whereas one may be more appropriate for moving the system towards a situation where objectives are achieved, another may be more appropriate for sustaining the preferred situation. The key issue, in particular in the last case, is to control the resource rent. Resource rent remaining in the fisheries sector could potentially undermine a sustainable situation of resource rent production. In this context, fiscal instruments may be useful as a management method to restrain fishing effort as well as being a means of extracting rent.

One practical question that arises is the apparent difficulty of introducing tax-based systems. However, although taxation may be difficult to introduce in a situation of zero resource rent (e.g. at open access equilibrium), situations may occur where tax introduction is more likely to get acceptance among fishers and fishers organisations. One such situation could be a significant upward shift in the demand for fish. By setting a tax equal the implied change in price, the resource rent related to the new situation could be collected, provided that appropriate institutional mechanisms exist. This requires opportunistic behaviour on the part of the rent collecting authorities that may be difficult to achieve if the approach taken is through tax codes that are enshrined in law.

Group 2

The second group focused on the issue of what to do with resource rent. The group began by discussing general objectives that could be met with the resources generated, namely:

- Economic growth (job creation, foreign exchange earnings)
- Poverty reduction (increased incomes, food security)
- Sustainable resource management
- Community (population) stabilization

The group identified some cross-cutting issues, particularly institutional reform and fiscal management. In the case of the former, it was noted that both Kenya and Mozambique have created separate Ministries for Fisheries, and that in Uganda thought is being given to the creation of a National Fisheries Authority, which would be a semi-autonomous parastatal organization. These changes are being complemented at the local level by the introduction of co-management systems.

The standard approach to the management of fiscal issues is for rent to go directly to the Central Government Treasury with allocations to fisheries then being made through normal government budgeting procedures. This approach has tended to starve fisheries administrations of resources although there are some signs of improvement as Governments come to realize the importance of better fisheries management. One element of reform being discussed in Uganda is the idea that the NFA might collect revenue directly for fisheries management. And in Mozambique, the share of revenue generated from fishing going to different Ministries is clearly defined.

The group suggested that an appropriate use of resources generated from fishing activity would be to improve the physical infrastructure in fishing communities. Such improvements might include roads, electricity to enable cold storage and reduce waste, and the construction and management of landing sites. Activities more directly related to fishing would include the creation of appropriate credit facilities and the funding of MCS programmes.

This group concluded that in the final analysis it is sustainable fisheries management that is important because without this there will be no economic growth, poverty reduction, sustainable livelihoods, and stable communities to talk about.

Group 3

The third group addressed the issue of how to manage the fiscal reform process and negotiate access agreements. The group reached the following conclusions:

1. Access agreements and fees from them provide an important source of revenue for the Government in terms of budgetary support.

2. It would appear that budgetary needs and political factors are more important than scientific information when negotiating access agreements.

3. Proper preparation is required before the negotiation of agreements takes place. A country must have a package of what it would like to achieve. There is a need to take account of the catch history and status of fish stocks in the zone, fleet compliance history, national policies and objectives.

4. There is a need for a clear set of guidelines for negotiating agreements.

5. There is a need to strengthen national capacity to monitor, control and enforce the requirements as set out in the agreements. Often, coastal states do not have the capacity to undertake this.

6. There should be better management and coordination of the reform process.

7. There should be wider consultation so that the general public would have appreciation and sense of ownership of the resource. The benefits from fisheries can and do spill over to other sectors, e.g. construction of roads and schools.

8. There are direct and indirect beneficiaries from fisheries. Proper and transparent negotiation of agreements and reform process will maximize benefits and minimize adverse impact of the reform. There would be no real losers and/or great beneficiaries from the reform process provided that this is carried out properly.

9. There is a need for political will to endure changes if an agreement failed to take place or nullified at the end of its life. This is to cushion the budgetary implications from the short-fall of revenue. If access agreements are to be ended, their end needs careful planning.

10. An emphasis on sustainability is crucial during the fiscal reform process and the negotiation of access agreements.

11. This group also reached the conclusion that, in the end, everything depends on sustainable fisheries management practices.

2.4 Regional group discussions

In order to identify national and regional priorities, participants were organized into three country-based groups.

Group 1: Morocco, Mauritania, Senegal, Guinea

The group discussed the questions raised at the workshop from a regional perspective.

Concerning fiscal arrangements, the group reached the following conclusions:

- Fiscal arrangements are important to improve State budgetary receipts.
- Such arrangements can also play an important role in the management of the fisheries sector in general and in fishery management in particular.
- There are multiple objectives and priorities may differ, leading to differences in perception of fiscal arrangements and the role that they may play.
- There is a need to improve communication between public and private actors in the context of fiscal reform.
- The use of fiscal arrangements to manage fisheries must be well justified. The system should not be over complex, and should not be a source of instability or uncertainty for investors.

- In order to enhance the chances of success when using fiscal arrangements as a supplementary tool to manage fisheries, there is a need for institutional reform and for capacity building amongst fisheries managers.

In this context, the group recommends:

- To move towards a revision of fiscal arrangements in the fishery sector. In order to achieve this, it would first be necessary to undertake a review of arrangements in the different countries of the subregion.
- To improve communication networks and participatory processes concerning fiscal reform in the fishery sector.
- To support and strengthen institutional and human capacity in fisheries departments to ensure that the fiscal reform process can be carried through effectively.

With respect to the use of revenue generated from fishery rents, the group concluded that such revenue should go to the national Treasury to contribute to national development. However, it is important to ensure that fishery policies (management and development) are among government priorities and that adequate resources are made available for their implementation.

With respect to fishing agreements, the group concluded that in order to ensure sustainable resource management, it is necessary to have single, integrated allocation mechanisms which take into account the fish potential of each country.

The group made the following general recommendations with regard to the follow-up which could be given to this workshop:

- To establish a Discussion Forum to continue the discussion begun during the workshop and monitor the take-up of the recommendations made.
- To disseminate the recommendations of the workshop to all international organizations interested in fisheries policy in the countries involved.
- To encourage and request FAO and other institutions to continue to support regional and subregional cooperation, particularly the subregional fisheries commission and the Ministerial Conference of Atlantic Seaboard States.

Group 2: Uganda, Kenya, Mozambique

The group noted that similar instruments were being applied throughout the region. At present, resources tend to go through national Treasury but the group concluded that in the past fisheries had not been effective in generating an appropriate budget when competing for resources with other Departments. For this reason, the group recommended earmarking for fishery management some proportion of the rents generated from fishing.

Institutional arrangements and capacity are currently weak and the group identified the need to:

- Build awareness among policy-makers in different Departments – Finance, Planning, Fisheries – and to ensure collaboration between them.
- Organize a regional workshop in support of a process of identifying priorities and appropriate fiscal arrangements.

In order to develop regional cooperation, it is important that the South West Indian Ocean Commission is implemented. This will enable:

- The harmonization and monitoring of access agreements.
- Improved EEZ management in the general interest.
- The issue of Illegal, Unreported and Unregulated (IUU) fishing to be addressed.

It is also important to strengthen the Lake Victoria Fisheries Organization to improve the management of the shared resources there.

The group suggested that the best way forward was to develop dialogue. To this end, this group also proposed the organization of a regional workshop. It was suggested that there should be a follow-up meeting in one year's time to review progress in this novel and difficult area, which has policy implications at many levels of Government. There is a need to engage all concerned Ministries so that a national plan can be developed and agreed.

Group 3: FFA, Papua New Guinea, Bay of Bengal Programme/India

In considering the identification of thematic priorities on regional basis, this group came to the conclusion that:

- All areas are important and have equal priority.
- There is a need to take a holistic view of the management of fisheries, taking into account all the resources – natural, human and capital.

The major issue is how to manage the fisheries – with existing capital and/or new capital. This requires:

- effective management systems;
- clear and well-defined objectives and guidelines;
- wider consultation processes with all stakeholders;
- management plans need to be flexible.

On the issue of cooperation possibilities, the group concluded that the main requirements were to:

- Think regionally and ACT nationally. This is important given that countries share a common resource, e.g. the Bay of Bengal region and tuna in the Pacific.
- Establish/develop action plans to implement fiscal reforms. Wider consultation should be encouraged when developing these action plans.

In terms of mechanisms to improve fiscal arrangements, the group identified that it would be useful to organize or undertake:

- Regional consultations to achieve better understanding of the common resource and harmonization policies across the board for ease of implementation. Consistency is important.
- National consultations to ensure that the stakeholders understand the dynamics of fiscal reforms and the instruments applied.
- Sectoral reviews or analysis to prepare management plans for important fisheries.

In conclusion, the group recommended that assistance be given to:

- organize regional consultation; and
- prepare sectoral analysis and reviews (national level).

2.5 Comments from workshop observers

Observers at the workshop were invited to give overall comments on the workshop and possible ideas for follow-up.

SIFAR offered to help facilitate further dialogue on fiscal reforms in fisheries, through the setting up of an FAO-based Listserver, which could provide the virtual platform for people to exchange ideas.

The **EuropeAid-Co-operation Office (AIDCO) from the European Commission (EC)** welcomed the opportunity to attend the workshop and had learned much. The EC is willing to support implementation of some of the issues discussed – for example regional networking and national units for policy analysis and technical support. This is also compatible with Cotonou objectives.

DFID (UK) is supporting work on policy coherence for development in fisheries with the OECD fisheries committee. It was reported that the workshop issues would be fed into that programme, and that workshop outputs would also be presented at a workshop on environmental fiscal reform hosted by Germany on 24-25 November 2003 in Berlin.

FAO thanked the participants for the excellent discussion and stressed that fisheries can create wealth – but the rent is easily squandered through overcapacity and excess effort. Fiscal reforms are about creating incentives to make it more likely that individuals do the right thing and sustainably manage the fishery resource.

India on behalf of the participants thanked the organizers saying that in the 1990s FAO pioneered sustainable and responsible fisheries and now these ideas are being widened to include fiscal reforms. As Mahatma Gandhi observed "there is enough for everyone's need, but not for everyone's greed".

3. SUMMARY OF PRINCIPAL WORKSHOP CONCLUSIONS AND RECOMMENDATIONS

1. The rationale underlying fisheries management, exploitation and development is beginning to change. Where once the focus was primarily on producing greater quantities of fish, the emphasis is now gradually moving, through concepts such as responsible fishing and sustainable management, towards wealth and revenue generation and their appropriate distribution. This change in focus presents new challenges to fisheries administrations. This workshop dealt with very novel issues and ideas. A major effort will be required over the coming years to develop and implement the ideas discussed at this workshop.

2. With the new emphasis on wealth and revenue generation, the issue of resource rent becomes central. Although calculating such rents precisely is a difficult exercise, tools exist to estimate orders of magnitude. Developing and implementing fishery management instruments (such as licences) that allow this value to be revealed in a market place will help.

3. Where wealth can be generated, choices must be made concerning its distribution. Rent can be left with resource users, or can be extracted by Government on behalf of all citizens. In most cases, current levels of extracted rent represent only small percentages of the total available, if the fisheries were well managed. Consideration must be given as to how best to use fisheries in meeting socio-economic objectives, in terms for instance of using revenue for poverty reducing investments, or through more direct provision of income, nutrition and in some cases employment for poor people.

4. Through appropriate fiscal arrangements, fisheries can make a major contribution to Government budgets. This contribution should be first and foremost via the Treasury, which can then take appropriate allocation decisions. In this context, it is important however that sufficient resources are budgeted and delivered to enable the fishery management function to be undertaken correctly, taking into consideration the potential of fisheries in the macroeconomy, if they are well managed.

5. Appropriate fiscal arrangements can also play an important role in fisheries management first, by helping to control the overall level of effort and second, by encouraging effort reallocation between fisheries. The challenge is to identify and implement such appropriate arrangements.

6. Given the novelty of the approach, which represents a major break with the past, there is a need for extensive communication and discussion of the ideas with all stakeholders. There is a need on the one hand for the Fisheries Ministry to build awareness amongst other Ministries and Government agencies of the contribution that the fishery sector can reasonably be expected to make. There is also a need for dialogue with the private sector on the general interest in fiscal reform and the implications.

7. In order to achieve fiscal reform, there will be a need to ensure that appropriate institutional arrangements exist and perform well. An institutional audit may be a useful starting point, enabling institutional reform requirements to be identified. Capacity will also have to be built up amongst fisheries managers. Technical assistance in calculating resource rents and in institutional analysis would be of particular interest.

8. In order to ensure sustainability, there is a need to develop holistic management systems, which integrate all fishing effort. This principle should also be applied in the case of access agreements.

9. Given the novel and important nature of the topic, the Group was keen to find ways to continue dialogue. A number of suggestions were made. One was to establish a discussion forum to develop further the themes raised at the workshop and to share experiences in implementation. It was suggested that a follow-up meeting should be organized in one year's time.

10. Workshop conclusions should be widely disseminated, including to all international and regional organizations having an interest in fisheries policy in the various countries and regions. A policy note could be prepared and made accessible online.

11. Although fiscal issues are clearly of great importance, fiscal arrangements are only one part of the fishery management system. There is a need to ensure that the various elements of the system are developed in a harmonious way.

12. Where resources are shared on a regional basis, there is a need to ensure effective management and collaboration between partners, including the harmonization of fiscal arrangements. The workshop recommended strengthening or establishing regional bodies to play this role.

13. There is a need to clarify objectives to ensure policy coherence. Apparent contradictions, for instance, between attempts to control fishing capacity within a context of resource rent extraction and attempts to encourage fishery development through favourable investment codes need to be dealt with very carefully.

14. In many cases, fiscal systems are very complicated based on a wide range of taxes, fees and levies. In a fiscal reform process, it would be useful to simplify so far as possible the system.

15. At a regional level, it must be recognized that countries are at different levels in terms of their fishery management and development programmes, and that they may not share common objectives. Regional workshops should be held to build awareness of the issues and to contribute to the process of identifying priorities and appropriate fiscal arrangements.

ANNEX 1: Workshop agenda

"*Fiscal reforms for fisheries – to promote growth, poverty eradication and sustainable management*": a workshop and exchange of views

Agenda

***Secretariat**: Support unit for International Fisheries and Aquatic Research (SIFAR), FAO Fisheries Department (www.sifar.org; www.onefish.org)*

***Facilitator**: Dr Stephen Cunningham, Institut du développement durable et des ressources aquatiques (IDDRA)*

Day 1: Monday 13 October	
8.30 - 9.00	Registration
9.00 - 9.25	Welcome by FAO Fisheries Department, and introductions by participants
9.25 – 9.30	Election of Chair for day 1
9.30-10.00	Workshop objectives – Facilitator
10.00 - 11.00	Information note on **Namibia** presented by P. Manning
11.00 - 11.30	Coffee, tea
11.30 - 12.30	Country presentations – **Mauritania, Uganda**
12.30 – 13.00	Introduction to discussion themes and organization of the three thematic groups including election of respective Chairs and Rapporteurs (for *thematic group* descriptions, see below)
13.00 - 14.30	Lunch
14.30 – 15.30	Split into *thematic group* discussions
15.30 – 16.00	Tea, coffee
16.00 - 17.30	Discussions in *thematic groups* (cont'd) and preparation of presentations for day 2
Evening (c.18.00-19.30)	Cocktails

Day 2: Tuesday 14 October	
9.00 - 9.25	Summary of day 1 – Chair day 1 and Facilitator
9.25 – 9.30	Election of Chair for day 2
9.30 – 11.00	Country presentations – **Kenya, Morocco, Senegal**
11.00 - 11.30	Coffee, tea
11.30 – 12.30	Country presentations – **Fisheries Forum Agency, Papua New Guinea: Perspective on the Pacific**
c.12.30 – 14.00	Lunch
14.00 – 15.30	Country presentations – Group 4 (cont'd): **Bay of Bengal, Mozambique, Guinea Conakry**
14.30 - 15.30	Thematic groups – plenary presentations and discussions
15.30 - 16.00	Tea, coffee
16.00 - 17.30	Thematic groups – plenary presentations and discussions (cont'd)
Evening	Dinner

Day 3: Wednesday 15 October	
8.45 – 9.00	Summary of day 2 – Chair day 2 and Facilitator
9.00	Election of Chair for day 3
9.00 - 11.00	Discussions by the *country groupings*
11.00 – 11.30	Coffee, tea
11.30 – 13.30	*Country groupings* – plenary presentations and discussions
13.30 – 14.30	Lunch
14.30 – 15.30	Presentations, discussions and adoption of draft report focusing on next steps
15.30 – 16.00	Tea, coffee
16.00 – 17.00	Continuing discussions and amendment of draft report as required
17.00 – 17.30	Final comments inc. from observers (open) Closure of meeting by Chair of the day

ANNEX 2: List of participants

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ANNEX 3: Workshop background papers

Information Sheet 1: RESOURCE RENT[13]

What is resource rent in fisheries?[14]

The concept of resource rent is fundamental to this workshop. Consideration of what happens to resource rent, or potential resource rent, associated with the utilization of a natural resource such as fisheries has important implications for the success of a national development strategy.

The concept of resource rent

Resource rent is a concept that relates the demand for a natural resource to its scarcity. It may be defined *as revenue accruing in excess of that needed to cover costs, when costs include a return to capital and labour, to risk and to entrepreneurship.*

Resource rent refers to profits in excess of the "normal" profits that entrepreneurs would expect to earn through any other enterprise in the economy. Normal profits are not some fixed rate of profit but essentially represent the opportunity costs of the fishing enterprise.

When the demand for a renewable natural resource exceeds the capacity of the resource to supply, it begins to produce a rent. In these circumstances, where there is not a sufficient supply of the natural resource to meet the demand for it, it is not possible for fishing enterprises to respond to price increases by producing more on a *sustainable basis*. Once the fishery has been fished down to the optimum productive level of biomass, any further increases in catch will result in a reduction of the biomass below the level of optimum productivity, and eventually to smaller catches at greater cost. Ultimately the limit of what can be produced is determined by how much the resource can produce. This induces people in the marketplace to compete to secure a share of the limited production for themselves. Profits in excess of what could be considered normal profits are generated and these are referred to as resource rents.

Conditions where resource rent accrues

In fisheries there are two sets of conditions in which resource rent is generated:

1. **When a fishery is developing**, that is, when the supply is still sufficient to meet the demand, regardless of whether there is an effective management regime in place. As fishing effort targeting the stock increases, the fish stock is fished down to its optimal level of productivity, at which point the resource rent is maximized. It is precisely the presence of this resource rent which, under conditions of open access, leads to an increase in fishing effort until all the resource rent is dissipated.

2. **In a mature fishery where there is a management regime that effectively limits fishing effort**. The more effective the management regime is in limiting fishing effort to the level at which the harvest is economically optimized, the greater will be the rent realized.

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[13] Prepared by SIFAR, October 2003.

[14] From: Eide, A.; Manning, P. & Steinshamm, S.: "Assessment of the Economic Benefits in African countries received from their Marine Resources"; Three Case Studies: Inst. Mar. Econ. And Bus. Admin., Bergen 2003.

Magnitude of resource rents

Resource rents associated with some fisheries can be very large. This is particularly true of many high value ground fish species, such as hake. The US National Marine Fisheries Service estimated net revenue for New England groundfish was about 65 percent of gross revenue, indicating a high percentage of resource rent (FAO, 1992). Technically attainable rents for many mature fisheries typically exceed 50 percent of the landed value of the catch (Arnason, 1991).

Resource rent will vary over time according to environmental/physical and biological parameters and market conditions.

Influence of environmental variation

The degree of dispersion or aggregation of a particular stock will determine, in part, how costly it is to catch. Variations in costs relating to changing environmental conditions which vary from year to year have an impact on how much resource rent is generated.

The marine environment on which southern Africa's hake stocks depend is variable and the variation in the associated costs of harvesting the resource are reflected in the catch per unit of effort (CPUE). Figure 1 for South African hake demonstrates this.

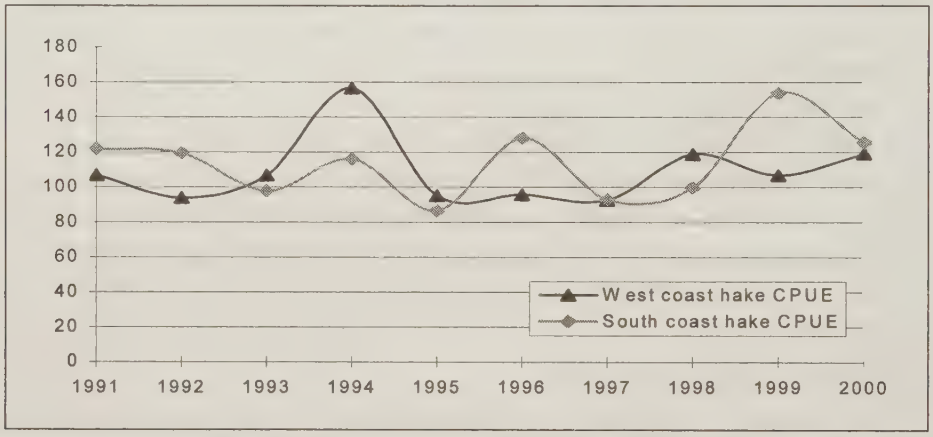


Figure 1: CPUE for the South African west and south coast hake fisheries (kg/min) [Marine and Coastal Management, Department of Environment Affairs and Tourism, South Africa (MCM)].

Changing market conditions

The following changing market conditions also have an impact on the generation of resource rent:

- **Supply and demand**: shortfall in supply is likely to result in price increases and higher rents being generated until the point is reached where market resistance to further price rises brings about a substitution effect. Oversupply in relation to demand will reduce prices and may eliminate rent associated with a particular stock. What is more generally the case in relation to ground fish species is that supply cannot meet the demand, thus inducing consumers to compete for what is available, creating a scarcity value.
- **Species characteristics**: different fish species represent vast differences food product quality and thus attract market prices. Such factors as fat content, texture, structure and size affect both their suitability for processing, market acceptance and price. Differences can even be marked between same species and groups. Inter- and intra-species differences in size also impact on in price per kilogram. These factors

including size makeup of the catch, therefore, also have an important bearing on its value and on the resource rent that might be associated with it.

- **Post-harvest handling and value-added**: fish that have been handled well post-harvest is often able to command substantially higher prices on (albeit more volatile) international fresh fish markets. Fish frozen at sea can attract better prices than land-frozen product where the quality may suffer; there is also a significant difference in the unit cost of production. Clearly, therefore, significant differences in the revenue may result from the adoption of one processing strategy over another. The decision which strategy to adopt has considerable implications for the realization of potential rent.
- **Impact of management**: changes in the property rights regimes associated with the harvesting of a particular stock may themselves bring about a change in the form in which product is marketed and thus the extent to which rents are associated with it.

Natural resource abundance, rent and economic growth

It is by no means assured that a country will realize the wealth associated with the natural resources with which it is endowed, simply because they are exploited. A country with abundant natural resources is conceptualized as possessing wealth waiting to be released when the resources are exploited. However, Sachs and Warner (1995) demonstrated how economies with a high ratio of natural resource exports to GDP, tend to have low growth rates. One explanation for this phenomenon is that the countries fail to capture the resource rent and make good use of it. These authors cite cases where development has not followed from the utilization of resources. It requires a focused effort directed towards making good use of resource rent thereby ensuring that the wealth tied up in the natural resources is used for the good of society as a whole.

An understanding of resource rent generation, or of the potential rent associated with a particular resource, is essential to making informed policy decisions that will lead to a productive process that optimizes the use of the resource for society as a whole.

Information sheet 2: FISCAL ISSUES IN FISHERIES EXPLOITATION AND MANAGEMENT[15]

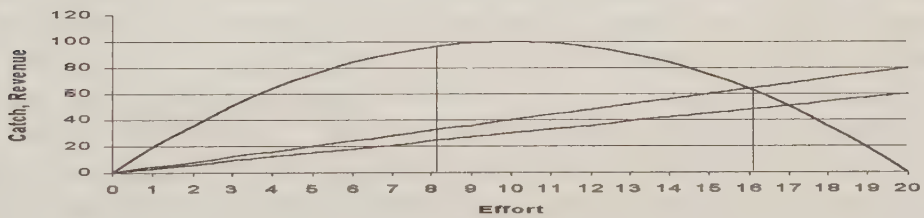
Until recently, fiscal arrangements in fisheries were concerned almost entirely with subsidies of one kind or another – fuel subsidies, investment codes, exemptions from import duty, technological assistance, etc. This situation continues to prevail in many, if not most, of the world's countries.

However, there has been a gradual awareness that well-managed fisheries can produce great wealth. And related to this, that it is precisely this great wealth that drives unmanaged or badly managed fisheries towards overexploitation, first in terms of overcapacity and then in terms of overfishing. Fisheries managers have little choice therefore but to put wealth on the agenda if lasting improvements are to be achieved.

Once the issue of wealth is on the agenda, the fiscal issue follows closely behind since fiscal arrangements will determine how the wealth is distributed.

1. Resource rent: the source of wealth in fisheries

There are many ways to think about resource rent. One way is to look at the problem in terms of resource ownership. Fish resources are clearly valuable, sometimes highly so. If they were owned by someone, that person would be in the position to charge a fee to those wishing to exploit their resources in exactly the same way as owners of fishing vessels, for instance, charge a fee to those who wish to use them (for example, for research cruises or for sport-fishing). The payment that the resource owner could receive is called the resource rent.



In the diagram above, the parabola represents both fishing revenue and sustainable fish production, on the twin assumptions that fish prices are constant and fish production is described by a Schaefer model. The straight lines from the origin represent fishing costs as effort expands, measured in terms of standard fishing vessels. The lower of the two lines represents all fishing costs except fishing enterprise profits. The difference between the two lines represents the profits that enterprises must earn if they are to stay in business in the long run.

If revenue exceeds cost (including this profit), as it does below effort levels of 16, then the fishery will be perceived to be exceptionally profitable and extra resources will be drawn into it until revenue equals cost. Note that the model predicts that fishing enterprises will remain profitable at the equilibrium point. The issue of fisheries management does not, therefore, turn on the profitability of fishing enterprises. There is some empirical evidence from FAO

[15] Prepared by IDDRA, October 2003.

(Tietze *et al.*, 2001) that supports this result showing that fishing enterprises are by and large profitable. It should, however, be noted that this model is a long run one, and that it is possible in practice for the equilibrium point to be overshot (costs exceed revenues) for some period of time. One also has to allow for variability in most parameters.

Nonetheless, the main problem is that in the process of the expansion of fishing effort, resource rent has been completely dissipated. It has gone to finance the overexpansion of the fishery. In this simple model, resource rent is maximised when effort is half the open access level. In this case, the effort level leading to resource rent maximization level would be around 8 standard units. Revenue generated by the fishery would then be 96 of which 64 would be resource rent and 32 exploitation costs. These latter would still include the profits of the fishing enterprises, although there would be fewer of them. Of course, the precise numbers are meaningless here but the ratios are not untypical of the real world.

It will also be noticed that in this case moving the fishery to the rent maximization level increases the amount of fish available, hence increasing consumer welfare.

2. Rent, access and incentives

An alternative way to look at resource rent is in terms of access conditions and the incentives that they create. Access to many fisheries has been, and in many cases continues to be, free and open. Under such circumstances, fishers perceive the resource rent below an effort level of 16 as extra profit and they are given an incentive to expand fishing effort. There is nothing irrational about fishers' behaviour taken individually but at the aggregate level the behaviour is irrational since it leads to overcapacity and overexploitation.

The problem that fishers face is that generally (there are some exceptions) they are not able to control aggregate behaviour and therefore they are forced to pursue their self interest, even though they may know that the group will lose out as a result.

In these circumstances, fishers need some higher authority to control the overall level of effort. It is somewhat ironic therefore that such higher authorities have often made the problem worse for instance by subsidizing fishing operations or by encouraging technological progress.

Looking at the diagram above, suppose that the fishery is in equilibrium at 16 effort units. Suppose that fishers are then subsidised for some reason, decreasing costs so that the lower of the two cost curves becomes relevant. The result is that overexploitation is worsened. And the same is true of technical progress that occurs in situations where access to the fishery remains free and open.

The same is also true of programmes that aim to increase fish prices (e.g. the focus on value added) although the diagram does not lend itself to the analysis of this problem.

The point is that under conditions of free and open access, what appears to be perfectly reasonable government policies of encouraging value-added products and technical progress in fishing can have the perverse effect of creating incentives for fishers to overexploit the resource yet further.

The key therefore lies in dealing with access conditions. Since it is free and open access which is the problem, the solution must either be that access is no longer free or that it is no longer open or some combination of the two. Most fishery management programmes have focused on closing access. A fiscal-based approach would focus on making access no longer free.

3. Resource rent: the three possibilities

In addressing the resource rent issue, there are only three possibilities, not mutually exclusive:

- First, as argued above, rent can be dissipated.
- Second, rent can be extracted by the management authority.
- Third, rent can be capitalized into the value of a suitable use right.

Combinations of all three are possible.

4. Need for appropriate instruments and institutions

In order for rent to be either capitalized or extracted, there is a need first to develop instruments and institutions that allow the wealth from the fishery to be created on a sustainable basis. Depending on the fishery, a variety of choices may be available.

The management authority then has to decide how much of the rent to extract. There appears to be good reasons not to attempt to extract all the rent. The most obvious relate to the enforcement difficulties of very high royalties, and also the disincentive effect. If fishers know that all rent will be extracted there will be little incentive for them to develop either revenue enhancing or cost reducing innovations, but both of these will be in society's interest. The best approach appears therefore to be a partnership between fishers and management.

5. Who is to do the exploiting?

The issue of wealth creation brings to the fore the related issue of who is to do the exploiting of the fish stock and under what conditions. One possibility is only nationals, another is only nationals who possess fishing vessels. Some countries allow foreign fishing, but usually under strict conditions.

The best known and perhaps most contentious of the arrangements including foreigners concern fishing agreements of one kind or another. Such agreements often involve developed countries (EU, USA, Japan) paying for their vessels to be given access to the resources of coastal states. In theory such agreements are subject to UNCLOS but a blind eye often seems to be turned to the surplus principle enshrined in that convention.

Be that as it may, both parties presumably gain from the exchange since such arrangements have continued for some time. And fishing agreements are clearly an important part of fiscal arrangements for some developing countries since a large proportion of central government revenue may depend upon them. In these cases, they usually represent by far the most important way in which rent is generated from the fishery.

As a general rule, it might be said that each restriction on who may exploit a fishery reduces rent potential, and from this point of view there are reasons to encourage foreign exploitation where it is more efficient.

But such agreements also raise some issues for developing countries. First, are foreign fleets genuinely more efficient or are they subsidized? In which case, does their presence represent a kind of dumping by the distant-water state.

Second, are domestic fleets unable to produce similar rents? Generally speaking, domestic fleets will have a much greater economic impact than foreign fleets, so that governments may even be prepared to sacrifice some rent in return for this impact. One of the criticisms that might be made of fishing agreements is that they have removed the pressure from many coastal states to manage their domestic fisheries in an economically efficient manner. As a result, the domestic industry, whilst apparently receiving favourable treatment, has in fact been disadvantaged compared to foreign fleets.

Third, are the fishing agreements sustainable? And what is the coastal state to do after the agreement if it should end? This question also raises the question of how domestic fleets are managed. If there is no effective system in place when the fishing agreement ends, a country risks not only losing the rent it obtains but also seeing domestic fishing capacity expand rapidly to fill the void whilst being unable to replace the rents.

6. What to do with fish resource rents?

If wealth can be extracted from the fishery, the question arises of what to do with it. This is clearly a question of general government policy and it is not the intention here to tell governments what to do. The purpose is simply to raise some issues.

Often the view is taken that because the rents have been generated by the fishery sector, they should be re-invested in that sector. But they could also be invested in the coastal sector more generally, or even economy-wide.

To some extent the best solution depends on the size of the rents. In countries such as Mauritania and even more so in the case of some island states, where rents provide a significant proportion of general government revenue, it makes sense for collection at national level to be overseen by the Finance Ministry.

In many cases however, fishery resource rents or potential rents are too small to warrant much attention at the national level. Hannesson (1993) suggested that as a general rule it makes sense to devolve rent collection to the highest level where it makes a difference. Obviously this is a bit subjective. In the case of Norway, where fishery rents are dwarfed by those from the oil industry, he suggested the creation of a coastal commission charged with their collection.

The ultimate devolution is of course to fishers themselves. This approach was taken by some of the pioneering countries in this field, including New Zealand and Iceland where fishing rights have simply been given to fishers. In the case of the latter at least, once the wealth thereby given away became apparent, as rights began to be traded, the policy has been called into serious question.

REFERENCES

Arnason, R. 1991. Efficient Management of Ocean Fisheries, *European Economic Review* **35**(2-3): 408-417.

FAO. 1992. The State of Food and Agriculture, Food and Agriculture Organization, Rome.

Hannesson, R. 1993. Opening Address. *In*: Innovations in Fisheries Management. Bergen, Norway: Foundation for Research in Economics and Business Administration. SNF Report 96/93, pp. 1-5.

Sachs, J.D. & Warner, A.M. 1995. Natural Resource Abundance and Economic Growth. NBER Working Paper Series, No. 5398, National Bureau of Economic Research, Cambridge Massachusetts.

Tietze, U., Prado, J., Le Ry, J.-M., & Lasch, R. 2001.Techno-economic performance of marine capture fisheries. *FAO Fisheries Technical Paper.* No. 421. Rome, FAO. 79p.

The Support unit for International Fisheries and Aquatic Research conceived and organized an international workshop on fiscal reform for fisheries, which was hosted by FAO from 13 to 15 October 2003 in Rome, Italy. A key goal of the workshop was to discuss the best use of fiscal methods to achieve both fisheries policy objectives, and broader economic, social and environmental objectives.

This report presents a synthesis of the workshop. Discussions were organized first on a thematic basis (mix of fiscal instruments, use of resource rent and managing fiscal reform processes) and then on a regional basis (thematic priorities, coordination, and recommendations for improvement and follow-up). The report summarizes these discussions as well as the presentations made by participants of the situation in each country represented at the meeting. It ends with the conclusions and recommendations adopted by the participants.

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